2007

CPA expert 2007 spring

American Institute of Certified Public Accountants

CPA EXPERT

AICPA Newsletter for Providers of Business Valuation, Forensic, & Litigation Services

Spring 2007

Contents

2006 APEX® AWARDS FOR PUBLICATION EXCELLENCE

Letters to the Editor

CPA Expert **encourages readers to write letters on issues related to business valuation, forensic, and litigation services and on published articles. Please include your name and telephone and fax numbers. Send your letters by e-mail to** wmoran@aicpa.org.

AICPA

DIVIDED OPINION: CONSIDERATION OF SUBSEQUENT EVENTS IN BUSINESS VALUATION

By Robin E. Taylor CPA/ABV, CFE, CVA, CBA

INTRODUCTION

As indicated in the quotes on this page and the next, controversy is not necessarily a bad thing. It causes us to reexamine our positions and serve the client with more supportable valuation opinions. One continually discussed area of controversy involves consideration of subsequent events. Here, we are talking about events that clearly occurred after the valuation date of the subject interest. This very important issue can have a material impact on our valuation conclusion. Should those later events be considered in determining value as of the earlier valuation date? Opinions are divided. In examining both sides of this area, we need to set all issues against the definitional backdrop of *fair market value*, defined as:

> *The price at which the property would change hands between a willing buyer and a willing seller, when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts.*

The key points for our discussion are "reasonable knowledge" and recognizing that it applies to both parties (symmetry in perception of reasonableness and relevancy). Also, a transaction is assumed to take place on the valuation date. The valuation professional is to, in effect, step into the shoes of the buyer and seller on that date and view the world around both of them. If the goal of the analysis is to determine the value of an asset as of a specific date, the valuation should be based on what was known or reasonably knowable on that date.

> "Controversy is only dreaded by the advocates of error."
>
> —*Benjamin Rush, American physician and political leader, member of the Continental Congress and signer of the Declaration of Independence*

This is not a new concept. In *Bank One Corporation* v. *Commissioner*, 120 T.C. No. 11 (2003), the Court referenced the concept set forth in *United States* v. *Cartwright*, 411 U.S. 546, 550-551 (1973), that fair market value must be determined without regard to any event that occurs after the date of valuation. It further made reference to *Estate of Andrews* v. *Commissioner*, 79 T.C. 938, 956 (1982), noting that a "hypothetical willing buyer and seller, who are by judicial decree always dickering for price in light of all the facts, cannot be credited with knowing what the future will yield."

This concept is fully embraced under the valuation standards of the various appraisal organizations and

under the currently issued AICPA exposure draft, *Proposed Statement on Standards for Valuation Services*. The exposure draft states that, generally, the valuation analyst should consider only circumstances existing at the valuation date and events occurring up to the valuation date.

A complicating factor is that valuation professionals are most often preparing the valuation of the subject interest (the appraisal process) at a date much later than the actual valuation date. Thus, we actually know what has transpired in the postvaluation date period. Sometimes those events can be quite material to the subject of the valuation. Often, those events were not foreseeable as of the valuation date. We are, however, to in effect put on blinders to all such subsequent events and ignore them.

"The most savage controversies are about matters as to which there is no good evidence either way."

—Bertrand Russell, English logician and philosopher

Thus, one position is to *never* consider such events.

Well, how has that position held up? The arguments involving consideration of subsequent events center on the following:

- Was the future event reasonably foreseeable as of the valuation date?
- Does the postvaluation date event provide "evidence" of conditions existing as of the valuation date?

The *IRS Valuation Guide for Income, Estate and Gift Taxes, Valuation Training for Appeals Officers* (the Guide), states:

> *The proper standard of reasonable knowledge is not what was known as of the valuation date; rather, it is proper to consider facts that are discoverable through reasonable investigation, as long* ***as such facts existed as of the valuation date,*** *even if they were not actually known at the time.*

The Guide then points to the *Morris* case (*Morris* v. *Commissioner,* 761 F.2d 1195, 85-1 U.S.T.C 13,617 (6th Cir. 1985)), in which the court made clear that subsequent events actually occurring after the valuation date *may be not considered unless reasonably foreseeable* as of the valuation date. This recognizes that there is a huge gap between considering an event to be "reasonably foreseeable" (looking forward) and considering the actual occurrence of a future event (looking back).

However, we need to be careful in using terms like "always" and "never" in the context of valuation. Using the language of my hometown, we might say that "nothing is always never!" Let's look at several cases:

Ridgely v. U.S. AFTR 2d 5946 (1967)

The estate valued a real estate parcel at $372 per acre at date of death of January 11, 1961.

General Foods purchased the 112 acres of the parcel for $2,700 per acre in May 1962. The Internal Revenue Service (IRS) then claimed the parcel was worth $2,700 per acre as of the earlier date of death. The Court disagreed with the IRS and stated:

> *There is no doubt that evidence of* ***a sale taking place after a valuation date has probative force on the value as of the earlier critical date****—where there has been no material change of conditions in the interim. Here...the circumstances were radically different from those prevailing at the date of the decedent's death and could not have* ***reasonably been foreseen*** *as of the date of the decedent's death.*

There have, however, been several cases where the concept of reasonable foreseeability was *not* required.

Estate of Jung, 101 T.C. 412 (1993)

The decedent died in October 1984 owning a 21% interest of Jung Corp.

Inquiries on possible acquisitions had been received since 1979 (a normal occurrence for many companies of this type), but there were no formal discussions with an interested party until 1986. The Company was sold in late 1986.

The court noted that on the date of death, the sale was not foreseeable but stated:

> *[W]e believe it appropriate to consider sales of properties occurring subsequent to the valuation date if the properties involved are indeed comparable to the subject properties."* They further stated, *"When viewed in this light—as evidence*

CPA Expert, Spring 2007, Volume 12, Number 4. Published by the American Institute of Certified Public Accountants. 220 Leigh Farm Road, Durham, NC 27707-8110. Printed in the U.S.A. Subscription rates: $76 a year; for AICPA members, $72; for members of the AICPA BV/FLS Section, $36. To order call 888-777-7077. *CPA Expert* is designed to provide timely nonauthoritative information only. It does not provide legal advice. The views of the authors and editors are their own, not those of the AICPA.

of value rather than as something that affects value—later-occurring events are no more to be ignored than earlier-occurring events.

Of course, appropriate adjustments must be made to take into account differences between the valuation date and the dates of the later-occurring events.

That is an easy thing to say, but what is "appropriate?" The Court listed such factors as:

- General inflation
- People's expectation with respect to the industry
- Performance of the components of the business
- Changes in the tax law

The valuation professional has now stepped out of the shoes of the hypothetical parties on the valuation date and into "a time travel machine," in the words of one commentator. Here, we successfully traveled out two years. Einstein would be so proud! Certainly, the concept of reasonable knowledge of relevant facts has been redefined for the above case.

Can it get worse? See the *Estate of Cidulka,* T.C. Memo 1996-149. Here, transaction evidence four years after the valuation date was utilized as support for value. Well, how far out in time are you allowed to travel? Far enough out to get the value indicator you desire (an ethical violation)? Is four years beyond the valuation date the maximum you can go? What about four years and one month?

Not all court decisions have gone this way. In *Mueller* v. *Commissioner,* T.C. Memo 1992-284, the court rejected a market method "...because it relies on information (the exact day the deal would close) that could not have been known on the valuation date." In *Nathan and Geraldine Morton* v. *Commissioner,* T.C. Memo 1997-166 (April 1, 1997), the Tax Court stated that subsequent events affecting value can only be taken into account if they are *reasonably foreseeable* on the valuation date. But subsequent events that merely provide evidence of value of the property on the valuation date can be taken into account regardless of whether they are foreseeable on the valuation date.

Many valuation professionals have problems with the use of a subsequent actual sale of the interest. For example, we cannot say that the later transaction was at fair market value (the standard of value required for valuations for tax purposes). As we all know, real world transactions usually take place at investment value (or transactional value) and not fair market value. Investment value takes into consideration the individual motivations and risk tolerances of the specific parties involved in the transaction. Also, sometimes those real world transactions prove to be bad investment decisions.

Does an individual want to sell his or her business for fair market value? Not at all! The individual rationally wants to sell it at the highest cash equivalent price that can be obtained. Do you want to buy a business at its fair market value? Even if you consider synergies, you still want to buy the interest at the lowest cash equivalent price you can pay. This is not necessarily fair market value. As we all know, fair market value is not the result of a real world event, but takes into account characteristics from the universe of qualified and typical buyers and not those of a specific buyer.

Also, the decision-making process by investors focuses on the relevancy of the information and whether it was reasonably knowable as of the transaction date. After that date has passed, there are no chances to go back and undo the deal. As Christopher Mercer has stated (Mercer Capital's *Value Matters,* 2005-02), "Opening the door to the routine analysis of subsequent transactions as providing evidence of valuation at earlier dates would seem to fly in the face of the basic intent of the fair market value standard of value." We are again reminded that court cases do not establish valuation theory.

In a litigation setting, in which a significant subsequent transaction in the business interests occurred, the event could be disclosed and included in the report if appropriate under the circumstances. If the transaction was not foreseeable, it should, however, be ignored in reaching the conclusion as of the earlier date. Nonetheless, the valuation professional should attempt to reconcile the valuation impact of the subsequent event to the fair market value determination at the valuation date. Such an exercise may point to problems in the underlying analysis, such as events and conditions that were actually foreseeable. Care must certainly be exercised in order to not inadvertently create another standard of value or another valuation date.

It is also important to reemphasize that the conclusions from these tax cases do not establish proper valuation theory. The tail should never be allowed to wag the dog. Tax cases should not drive the standards and practices of the profession. Therefore, the "jurisdictional exception," as allowed under the proposed AICPA valuation standards, would likely need to be applied in a tax situation if the valuation analyst believes that a subsequent event must be considered because of case law.

CONCLUSION

As seen above, opinions vary in some basic areas of valuation. Such a situation is, however, welcome. Valuation professionals must be alert to the danger of falling into a "rut" in deciding approaches to value, and the elements for consideration. Professional practice (like life) is full of changes. The need to always exercise common sense, professional judgment, and reasonableness remains with us.

Robin E. Taylor, CPA/ABV, CFE, CVA, CBA, is a partner in the regional accounting firm of Dixon Hughes, PLLC, Birmingham, AL.

MONTE CARLO SIMULATION ANALYSIS PART II: BEYOND THE THEORY

By Steve Pomerantz, PhD, and Bruce G. Dubinsky, MST, CPA, CVA, CFE

Understanding the basic theory of Monte Carlo Simulation Analysis (MCSA) is just the first step in being able to effectively apply it in the context of providing litigation support services. In our first article (*CPA Expert,* Winter 2007), we explained the basic theory of Monte Carlo Simulation Analysis and provided some examples of its application. In this article, the second in the three-part series on Monte Carlo Simulation Analysis, we illustrate with some basic examples how the technique is implemented. Once the basic ideas are explained, it will be clear how varied and general the applications can be.

A good starting point for these types of problems is to take a look at Excel, the popular spreadsheet program from Microsoft. Depending on the user's ability with Excel, there are several ways to proceed. Even if you are familiar with Visual Basic, a programming language that is used within Excel, we highly recommend the usage of third-party software such as @RISK or Crystal Ball. These Excel add-ins not only help with the analysis, but also provide easy-to-use-and-understand graphical interfaces and outputs. To begin, start Excel and open a new spreadsheet and take the following steps.

1. Set up columns A, B & C labeled in Cell A4, B4, and C4: Period, Change, and Cumulative.
2. In cells A5 and C5, enter a zero.
3. In cells A6:A55, enter the numbers 1–50.
4. In cell B6, enter the following formula: =RAND()–.5 and copy it down to cell B16.
5. In cell C6, enter the following formula: =+C2+B3 and copy it down to cell C16.

Your spreadsheet should look like Figure 1.

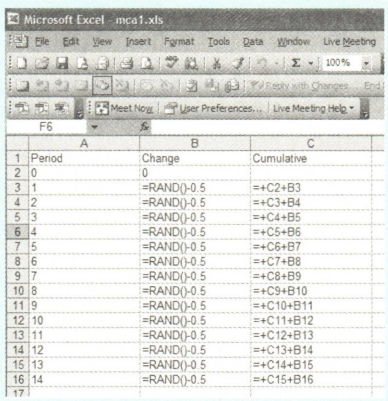
1. Next, create a line chart to the right of column C with cells C2:C16 as the values and cells A2:A16 as the category (X) axis labels.
2. Set the (Y) axis scale at –2.5 to +2.5 with .5 as the major unit and set Category (X) Crosses at 0.

Your spreadsheet should now look like Figure 2, and by pressing F9 on your keyboard, (the recalculate function in Excel) repeatedly you should be able to view the proverbial "random walk down Wall Street."

Random walk is a stock market theory that postulates that the past movement or direction of the price of a stock or overall market cannot be used to predict its future movement. Originally examined by Maurice Kendall in 1953, the theory states that stock price fluctuations are independent of each other and have the same probability distribution, but that over a long period of time, stock prices maintain an upward trend.

In short, random walk says that stocks take a random and unpredictable path. The chance of a stock's future price going up is the same as the chance of its going down. Therefore in the context of our spreadsheet example, by pressing F9 repeatedly, in essence you are

Figure 1



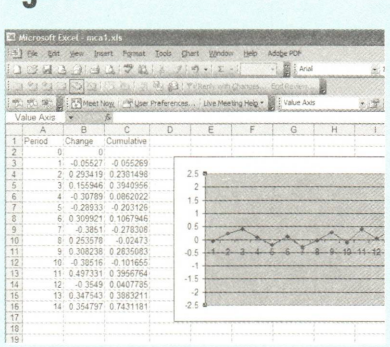
	A	B	C
1	Period	Change	Cumulative
2	0	0	
3	1	=RAND()-0.5	=+C2+B3
4	2	=RAND()-0.5	=+C3+B4
5	3	=RAND()-0.5	=+C4+B5
6	4	=RAND()-0.5	=+C5+B6
7	5	=RAND()-0.5	=+C6+B7
8	6	=RAND()-0.5	=+C7+B8
9	7	=RAND()-0.5	=+C8+B9
10	8	=RAND()-0.5	=+C9+B10
11	9	=RAND()-0.5	=+C10+B11
12	10	=RAND()-0.5	=+C11+B12
13	11	=RAND()-0.5	=+C12+B13
14	12	=RAND()-0.5	=+C13+B14
15	13	=RAND()-0.5	=+C14+B15
16	14	=RAND()-0.5	=+C15+B16
17			

creating the "random walk" because the values and the resulting line chart change each time you recalculate the spreadsheet. The purpose of the MCSA is to randomly generate the 14 random values in column B above, and in this particular example we are illustrating the cumulative sum of these values. In this particular function, we used the RAND function in Excel to generate a random number between 0.0 and 1.0 that is uniformly distributed. This, of course, is just one type of random number. Later we will discuss how to use this type of random variable to generate random variables that have other types of distributions (such as the bell-curve or normal distribution). Before that though, let's keep working with the above to show how these values might be used.

Suppose one wanted to value a business by predicting what the possible revenue would be generated over the next 14 years. Furthermore, let's assume that based on whatever analysis we did (perhaps historical or projective) we were of the opinion that annual revenues were going to be uniformly distributed between $3 million and $5 million. This means that to our knowledge, annual revenue is equally likely to take a value between these two extremes. To simulate this, do the following:

1. Replace C3 with the formula =4+2*B3 and copy down the column.

Figure 2



2. Next, create a bar chart to the right of column C with cells C2:C16 as the values and cells A2:A16 as the category (X) axis labels.
3. In C17 enter the formula = SUM(C3:C16).

The spreadsheet should now look like Figure 3.

Each bar in the chart represents the simulated revenue for the respective year. Note that the revenue in each year is a value between $3 million and $5 million, and the total for the path shown is $53.6 million. As you hit F9, you should notice the annual values change in the graph, and the Total changes as well. For our purposes here, we are ignoring any discount factor that is due to interest rates or credit risk for future cash flows and we are focusing just on the mechanics of the analysis. In practice, a true valuation would require some discounting not only for the time value of money, but also for the assumption of some credit risk and risk inherent in the subject business.

The software programs that are available to run a Monte Carlo simulation analysis recalculate these values as often as desired and collate the values being generated. In this manner, they answer such questions as What is the expected value of Total? ($56 million) Or its standard deviation? ($2.2 million) MCSA can also answer more complicated questions, such as What is the 10th percentile of Total? ($53.2 million) Or more optimistically, what could the 90th percentile be? ($58.8 million). We all know that sometimes looking at the 90th decile can be useful when selecting which output to employ in a particular projection. For example, if a part of valuing this particular business was based on the realized value of Total, MCSA has just provided a likely range of possibilities that are devoid of the normal bias that is inherent in any projection where future values are discretely selected by the analyst.

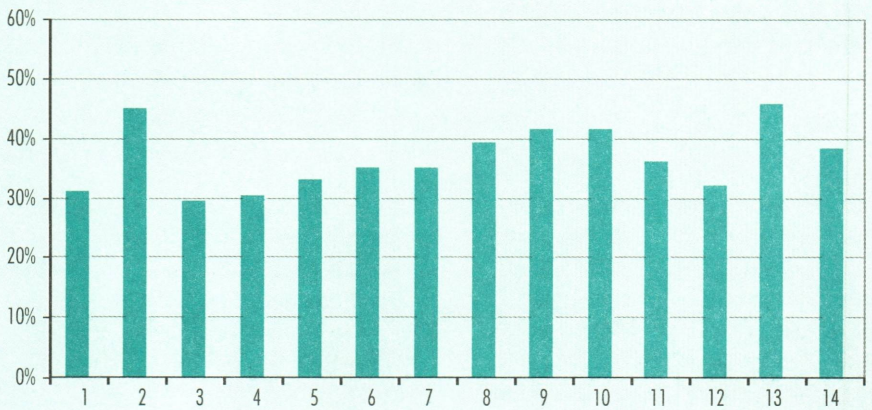
The real strength of MCSA, however, is its ability to link the formula for whatever application one pursues with probability distribution formulae such as the uniform used above or any other type. There are many other distributions other than the uniform that one may wish to use. For instance, in probability and statistics, the log-normal distribution is the probability distribution of any random variable whose logarithm is normally distributed. If X is a random variable with a normal distribution, then exp(X) has a log-normal distribution; likewise, if Y is log-normally distributed, then log(Y) is normally distributed.

A variable might be modeled as log-normal if it can be thought of as the multiplicative product of many small independent factors. A good example is the long-term return rate on a stock investment: It can be considered as the product of the daily return rates and as such, if modeled as log-normal, produces different output results than if a normal distribution had been used. However, when simulating daily stock returns, one often uses a normal distribution. This is an attractive choice as it insures that most observations are within a reasonable band of what we expect for daily changes. Larger changes and even extreme movements are also possible but with decreasing likelihood as the magnitude of the change gets larger.

Most software packages for MCSA provide a variety of examples to suit any application. The use of other types of distributions helps to insure that the MCSA results are more realistically aligned with the underlying financial realities, expectations, and risks of the given situation. A detailed discussion of the theory underlying the different types of distributions is beyond the scope of this article, but one can find excellent discussions on the Internet as well as various mathematic treatises.

Figure 3. Annual Revenue

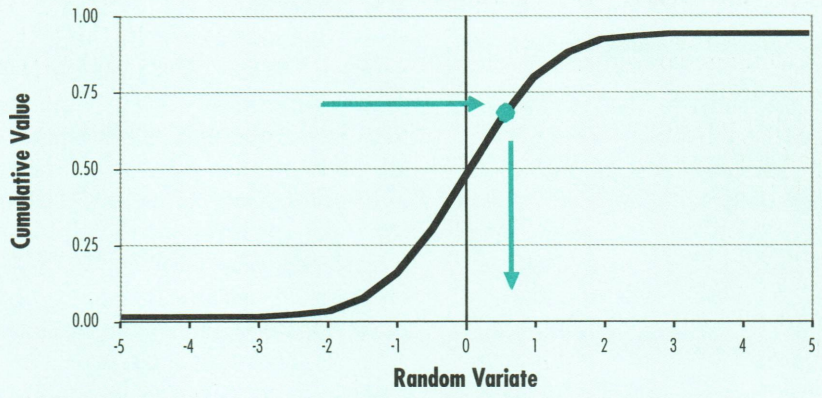
Period	Variate	Revenue
0		
1	–0.37	3.26
2	0.35	4.70
3	–0.48	3.04
4	–0.43	3.13
5	–0.27	3.46
6	–0.15	3.69
7	–0.18	3.65
8	0.04	4.09
9	0.16	4.32
10	0.17	4.33
11	–0.11	3.78
12	–0.34	3.32
13	0.41	4.81
14	0.00	4.01
	Total	53.60



To show how different distributions can be utilized, let's take a look at the Excel function RAND, which generates a random number between 0.0 and 1.0 and can also be used to generate random variables of other distributions. Let's consider the Standard Normal as an example.

The standard normal is a random variable that typically takes values for –5.0 to 5.0. (Actually the range is infinite, but the range stated above incorporates 99.9999% of all possibilities—and yes, you can use MCSA to verify this!) However, given the Excel RAND() function, which produces a uniform random number between 0.0 and 1.0, we can create random numbers that come from the standard normal as shown in Figure 4.

Figure 4. Cumulative Standard Normal



Associated with the standard normal is a function called the cumulative normal, which takes a value from 0.0 to 1.0. It measures the probability that a random normal variate is less than some given value. If the range for the normal is –5.0 to 5.0, then the Cumulative value of –5.0 is 0.0 and the Cumulative value of 5.0 is 1.0. This is because there is a 0% probability of choosing a random normal value less than –5.0 and a 100% probability of choosing one less than 5.0. Given this fact, we can use the uniform distribution to generate a value from 0.0 to 1.0 and interpret it as a cumulative normal value. The standard normal variate is then the value that has the randomly chosen cumulative normal value.

Figure 4 illustrates the Cumulative Normal Function. The y-axis ranges from 0.0 to 1.0 and represents the cumulative probabilities. The x-axis represents the standard normal variate. Just as each variate corresponds to a cumulative probability, every probability corresponds to a normal variate. As we see in the graph, a cumulative probability of 0.5 corresponds to a variate of 0.0. As the arrows illustrate, a cumulative probability of 0.75 corresponds to a variate of approximately 0.66.

As the graph illustrates, we use the RAND() function to generate a random number between 0.0 and 1.0, and then use the graph above to find the corresponding Standard Normal Variate. This value is then used in an MCSA when we want to incorporate normal rather than uniform randomness. This is a helpful technique in creating not only random variates that are normal, but also any kind of distribution desired. Although there are numerous types of distributions, they all have a corresponding cumulative distribution that takes values between 0.0 and 1.0. By using the RAND() function we can find a random cumulative value for any distribution, and then solve backwards to find the random variate for our particular application. While the normal is useful, and in fact standard, for stock related problems, many other types, such as Poisson or Exponential, are standard in other applications.

The following example performs the revenue analysis previously discussed, with the assumption that annual revenue follows a normal distribution rather than a uniform distribution. Again Excel can be helpful in generating these variates as follows:

1. Replace each value in Column B with the function RAND()
2. Replace Column C values with the formula =4.0+.6*NORMSINV (BX), for each row

This simulates the annual revenue with a normally distributed value with an expected value of $4.0 million and a standard deviation of $600,000. Again, we can simulate these values through a software package to answer the same types of questions as above. For this particular configuration, the worst case scenarios as defined by the10th percentile is found to be $53.1 million and the best case given by the 90th percentile is $59.1 million, values close to that calculated above. Of course, depending on the problem, the values calculated can depend significantly on the distribution used or the parameters of that distribution. MCSA provides a framework for measuring that uncertainty.

Although we have described the basic framework for performing MCSA, all applications of it, no matter how complicated are similarly performed. The user must identify the desired output, how it is functionally related to the random inputs, and how those inputs should be modeled. The rest is just implementation. In the third and last article in our series, we will walk through two problems in detail and show how to solve them using MCSA.

Bruce G. Dubinsky, MST, CPA, CVA, CFE, specializes in the detection and prevention of financial frauds. He is also director of litigation and forensic accounting services at Klausner Dubinsky & Associates in Bethesda, MD (www.klausnerdubinsky.com). Steve Pomerantz, Ph.D., is president of Steve Pomerantz LLC, Princeton, NJ. He can be contacted at steve@stevepomerantz.com.

THE VALUE OF EXPERIENCE

To encourage continued growth of the ABV community, the Institute has launched a new ABV sponsor program that recognizes the value of experience in valuation. CPAs experienced in business valuation may qualify to join the ABV community in the new program if they meet the following requirements:

- Currently an AICPA CPA member in good standing.
- Passed a valuation exam for an AM, CBA, CFA, or CVA credential and holds the credential in good standing. The exam may be proctored or unproctored.
- Can attest to having at least 1,000 hours of business valuation experience.

In addition, ABV sponsorship is required. A candidate must have either:

- One ABV sponsor who serves in a supervisory role within the candidate's firm or employer
- Two ABV sponsors outside the candidate's firm/employer

The ABV sponsors must be sufficiently familiar with the candidate's valuation work.

For additional information about the program, please visit bvfls.aicpa.org/Memberships/default.htm.

FUNDAMENTAL S CORPORATION LOGIC

By Nancy J. Fannon, ASA, CPA◊ABV, MCBA

We now have five cases in which the Tax Court has rejected any deduction for income taxes in the calculation of the income approach. This is not altogether surprising, as the Tax Court has not yet heard a compelling argument of why it should do so. As valuation analysts, we need to be able to articulate that logic; although we may not all end up in Tax Court, many of us will find ourselves explaining our valuations and the logic behind them to IRS examiners.

Unfortunately, although there has been a deluge of information regarding the valuation of S corporations, the basic logic of why an S corporation would be worth more than a publicly traded C corporation has gotten lost in the fray. This article steps back and takes a look at the fundamentals underlying the models that are currently in use for valuing S corporations.[1] Without this foundational understanding, it is difficult to know if, when, and how to properly apply the models, and thus, it is impossible to properly explain your logic to your client, the IRS, or the Tax Court.

VALUE IS IN THE EYES OF THE BEHOLDER

Value is personal: What may be valuable to me may not be valuable to someone else. If no one had ever desired Picasso's paintings, they would have ended up collecting dust in some cellar, worthless. But someone decided they had to have one, because the painting meant something to that person individually, and it was therefore valuable to them. The person bought it, and soon others had to have one too. Once Picasso's paintings became meaningful to a collection of people, the paintings became valuable in the marketplace.

Investments work the same way. You care about what meaning it has to you. For most of us, that means we care how much ends up in our pockets. As CPAs, we understand that taxes affect how much ends up in our pockets. Let's say, for example, you earn a dividend of $100 on IBM stock. You'll have to pay roughly $20 in federal and state taxes on the dividend, so you'll end up with $80 in your pocket. What if, instead of receiving $100 on IBM, you earned it on a municipal bond? There are no income taxes on such bonds, so in that case, you'd get to keep the entire $100. In either case, what you really care about is how much went into your pocket.

The same is true with a private company investment. Investors in private companies also care about the amount of money that ends up in their pockets. Both the investor in the publicly traded C corporation and the investor in the S corporation bear corporate income taxes. Where these taxes are borne makes no difference from the investor's point of view; these taxes must be paid, and as a result, there is less cash in the investor's pocket.[2] However, the investor in the S corporation will have more cash in his or her pocket because he or she does not have to pay the $20 dividend tax when the profit is distributed, as would an investor in a publicly traded C corporation.

LET'S DO THE MATH

Assume we have a publicly traded C corporation, on which we have calculated a rate of return as follows:

Amount invested	**$1,000**
Times rate of return	**x 10%**
Equals dividend to investor from public company	**$100**

1 The methods established today for the valuation of S corporations can be found in the work done by Roger J. Grabowski, Chris D. Treharne, Z. Christopher Mercer, and Daniel R. Van Vleet and a Simplified Method by the author of this article. While a discussion of each of their specific methodologies is beyond the scope of this article, these collective works form the core of the financial reality facing the S corporation owner that this article presents.

2 This discussion does not consider control versus minority issues and related access to distributions.

Based solely on this information, the public C corporation would report a rate of return of 10%. We know that the most basic way to calculate value is to reverse this calculation, as follows:

Dividend to investor	**$100**
Divided by rate of return	**÷ 10%**
Equals value of investment	**$1,000**

Any time you know the dividend you expect to receive and the company's rate of return, you can calculate how much you should be willing to invest in this manner.

These calculations for the publicly traded C corporation confirm that value, rate of return, and the cash dividend to the investor are in sync with each other. The investor must pay a dividend tax upon receipt of the $100 dividend. Knowing this, the investor determined a 10% rate of return was appropriate for an investment in this publicly traded company. Thus, after an assumed 20% federal and state dividend tax, our investor nets $80.

Now let's use this information to determine value for an S corporation. Our example will assume 100% of available income is paid out in dividends.[3] First, if these were otherwise identical companies, the income available would not be $100, as in our example with the publicly traded C corporation. This is because the C corporation has already paid income taxes. In the case of the S corporation, the distributable income would be before corporate tax had been paid. Therefore, the distribution would be $167 (assuming a 40% income tax rate). Corporate income taxes would then be paid by the investor, who would be left with a net of $100. We would use this net $100 as our income for the S corporation. Again, the investor does not care who bears the tax on corporate income—that money is gone and will not reach his or her pocket or contribute to value.

Next, we must find a proxy for a rate of return to apply against the S corporation's income in order to determine value. No available sources supply rates of return for S corporations. The closest proxies we have are publicly traded C corporations. Thus, we will use the 10% that was used above for the publicly traded stock.

Having determined our income and our rate of return from the public markets, our value calculation for the S corporation is as follows:

Net cash flow to investor	**$ 100**
Divided by rate of return	**÷ 10%**
Equals value of investment	**$1,000**

In valuing the S corporation, we used a rate of return from the public markets that was derived from investors who had an expectation of paying a dividend tax upon receipt of corporate net profits (dividends). The investor in the S corporation will not have to pay a dividend tax. Therefore, relative to the publicly traded C corporation investor from whom we "borrowed" a rate of return, the S corporation investor should be willing to pay more. Therein lies a benefit we still need to account for.

AVOIDANCE OF DIVIDEND TAX

The investor in the S corporation gets to keep $20 that the investor in the publicly traded C corporation did not. In order to account for the value of this additional benefit, the calculation can simply be stated as:

Net additional benefit to investor in S corp	**$20**
Divided by rate of return from public market	**÷ 10%**
Equals additional value of Investment	**$200**

Adding the value of the avoided dividend to the value of the investment equals the total value of $1,200.

We can see if this works by checking the investment we have calculated for the S corporation against the rate of return in the market:

Investment in S corp	**$1,200**
Times rate of return from public markets	**x 10%**
C corp equivalent dividend to investor in S corp	**$120**

In fact, this checks back to the return to an investor in the S corporation:

After-corporate tax cash return of public company	**$100**
Additional savings from dividend tax avoided	**+ $20**
Total C corp equivalent dividend to investor in S corp	**$120**

The "C corporation equivalent dividend" is the metric we should be calculating when using a rate of return from the public markets. This is because the rate of return from the public markets is one on which the investor expects taxes on corporate income to be satisfied, but out of which dividend taxes will have to be paid from personal funds. Thus, for the S corporation investor, we have calculated the equivalent publicly traded C corporation return after the satisfaction of corporate income taxes, but before the imposition of personal dividend taxes. Since the dividend tax rate for an S corporation shareholder is zero, the amount of implied dividend is necessarily higher than it is for a C corporation.

This calculation in this example results in a premium for the S corporation of 20%, relative to the publicly traded C corporation.

Let's try this same fact pattern, using the model established in Tax Court cases. Five Tax Court cases treated the investors as having avoided all taxes—both taxes on corporate income and personal taxes on dividends:

3 For simplicity's sake, this analysis has focused only on dividend returns, assuming all earnings are distributed, and assuming net income equals cash flow; note that public and private returns are actually made up of dividends and capital gains.

Cash flow if income taxes and dividend taxes are treated as avoided	**$ 167**
Divided by rate of return from public markets	**÷ 10%**
Equals value of investment according to Tax Court	**$1,670**

Just as before, we can see if the value determined in this way is correct by checking the investment we have calculated for the S corporation against the rate of return in the market, to ensure that the cash calculated indeed equals the amount of cash that the investor will end up with:

Value of investment—assuming all corporate taxes avoided	**$1,670**
Times rate of return from public markets	**x 10%**
C corp equivalent dividend	**$167**

This model predicts that the S corporation investor will end up with a C corporation equivalent dividend of $167, yet we know from above that this is not true; the investor will only have an equivalent dividend of $120. This is a significant overstatement of the benefit to the S corporation shareholder, attributing far more cash flow than is possible from the investment. How can this be? The model ignores the fact that $67 in taxes on corporate earnings must be paid, and treats it as if it ends up in the investor's pocket. As the S corporation investor who pays these taxes knows, nothing could be further from the truth.

WHAT ABOUT BASIS?

Net income goes one of two places—it is *either* distributed *or* it is retained. Typically, it is some combination of the two. If it is distributed, it is treated as described above. If it is retained, then it adds to the S corporation shareholder's basis in their stock. This is an advantage a shareholder in an S corporation has over a shareholder in the publicly traded markets. This is important to consider, because when we used the rate of return from the public market, that rate of return would not have considered any benefit for the ability to build up basis.

Retained net income accumulates over time and adds to the value of the investor's stock. In some cases, it would be appropriate to determine a terminal period at which time the investment would be sold and the benefit of the basis realized. At that time, the benefit of the built-up basis is the capital gains tax savings upon the sale, present-valued back to the date of valuation. It may be appropriate to consider a greater risk assessment in the discount rate relating to the uncertainty of such sale occurring.

CLOSING REMARKS

The valuation of S corporations has a solid foundation in financial and economic theory. Unfortunately, these financial fundamentals have not yet been widely embraced by financial analysts or the courts. It is my hope that with a simplified view of the issue, more judges, analysts, and attorneys can begin to understand this issue which affects over 3.5 million U.S. companies and their investors.

Nancy J. Fannon, ASA, CPA◊ABV, MCBA, is owner of Fannon Valuation Group in Portland, Maine. Nancy can be reached at nancy@fannonval.com.

AVOIDING RISKS ASSOCIATED WITH ELECTRONIC COMMUNICATION: A FIRST STEP

Many risks are associated with electronic communications. They include employee misuse, information theft, privacy violations, and lack of compliance with document retention policies. The following article focuses on steps an employer can take to minimize the risks of legal liability related to employee misuse of electronic communication, especially via e-mail and the Internet. It is based on guidance offered by the National Federation of Independent Business, a small business advocacy association based in Washington, D.C.

Workplace communication has changed dramatically in the last ten years. Communication formats, such as phone calls, paper documents (faxed or mailed), and meetings, have been significantly displaced by electronic communications, especially e-mail.

Such is the volume of email, digital records, and other electronic documents that organizations need document retention policies as they did for paper documents. Document retention policies, whether for paper or electronic documents, allow an organization to contain storage costs as well as to protect privacy. Since the prosecution of Arthur Andersen for its destruction of documents as the Enron scandal unfolded, corporations have paid more attention to their retention policies.

The issue of electronic discovery of such documents has become an even hotter issue since the amended Federal Rules of Civil Procedure went into effect on December 1, 2006.

Most small businesses will probably never be subjected to such e-discovery. Nevertheless, they need to manage the risk of legal liability related to inappropriate usage of electronic communication. One

place to begin is to establish a written policy that explains the company's rules for e-mail and Internet use and to ensure that employees are aware of the policy and the consequences of violating it.

Courts generally find that an employer has a right to monitor employee use of electronic communications, advises Elizabeth Gaudio, senior counsel for the National Federation of Independent Business Legal Foundation. In fact, the Electronic Communications Privacy Act of 1986 includes two provisions that specify an employer's right to monitor e-mail messages on the company's system.

Any company that makes electronic communications equipment available to employees should have a policy that explains the company's rules for e-mail use and warns employees that they should have no expectation of privacy in their e-mail use. Even if a company has not established a system for monitoring e-mail, it must protect its right to do so. If a company has not reserved its right to monitor employee communications, an employee might sue for violations of privacy.

MONITORING E-MAIL

Courts generally uphold employer sanctions against an employee for improper use of computers and e-mail if the employer has communicated its policy to the employee. The employer should require employees to sign a form acknowledging that they have read the policy and agree to its terms. The policy should explain the purposes and advantages of monitoring, the company's right to do so, and specific rules for employee computer use. In Delaware, employers, before monitoring e-mail, need to get a signed acknowledgement from their employees. Other states are considering legislating similar requirements, so employers should check the status of any such initiatives.

The e-mail policy should explain the company's position on personal use of e-mail. Ms. Gaudio offers the following example: "All messages composed, sent, or received on the e-mail systems are the property of [company name]. These communications are not the private property of any employee. The use of the electronic mail system is reserved solely for the conduct of business at the company. It may not be used for personal business."

Before promulgating an e-mail policy to employees and asking for their acceptance, an employer should review the policy with counsel.

POLICY BENEFITS

Perhaps foremost among the benefits of establishing an e-mail and Internet use policy is protection against legal liability for the content of e-mail messages that may provoke and perhaps warrant claims of sexual harassment, discrimination, or threatened violence as well as other messages that create a hostile work environment or involve illegal activity. In addition to responsibility for the content of employee e-mail messages, an employer could be held liable for inappropriate employee use of the Internet in the workplace. If, for example, a business is aware that an employee has accessed child pornography using company computers, it is legally responsible for taking action within the company and possibly alerting outside authorities. Furthermore, turning a blind eye to improper Internet use could result in a lawsuit if a third party is harmed by the illegal activity.

A policy can also protect private company materials that are sent and received via e-mail. The policy should state clearly what may or may not pass through the company Internet system. The policy can also help to protect against viruses downloaded via the Internet or e-mails with attachments that could cause the company computers to crash. In addition, excessive Internet use outside of company purposes can take up valuable system space as well as degrade productivity and efficiency. Employees will be more productive with a "business-only" or a "limited personal use" e-mail and Internet policy.

AN IMPORTANT REMINDER ABOUT ABV RECERTIFICATION

All ABVs are required to meet ABV recertification requirements every three years. All recertifications are now conducted at calendar year-end. All ABVs whose recertification period ended December 31, 2006 will receive e-mail information from the AICPA on recertification in late April 2007, so watch your inbox! Recertification is done online in a simple attest format. For more information on recertification, view the *ABV Credential Handbook,* which is available at email.aicpa.org/cgi-bin15/DM/y/eYHJOMhj2j0EcjOV7J0Ew.

FYI...

ADD AUDIO TO E-DISCOVERY

How often have your phone conversations with others been prefaced by another party saying, "This call may be recorded for quality purposes." Advances in the capabilities of digital recording have made business records, such as voicemail and recorded customer calls, as accessible as digital files. In addition, technology has been developed to facilitate searching audio files. That technology may well develop rapidly, given the amendment of the Federal Rules of Civil Procedure on December 1, 2006 to include sound recordings as discoverable electronically stored information (ESI).

Dealing with ESI is often a formidable and very expensive challenge for litigants. Realizing this and counting on increasing demand for assistance in ESI searches, technology companies have developed solutions. For example, Fios Inc., a leading electronic discovery services provider, formed a strategic partnership with Nexidia, a provider of phonetic-based technology for audio search, to develop technology that would facilitate the review and analysis of electronic audio files as part of discovery.

Nexidia's technology allows for highly scalable audio search by identifying phoneme (speech) patterns that provide higher accuracy than dictionary dependent, speech-to-text based audio search, manual transcription, or labor-intensive listening. Audio-search technologies based on a speech-to-text process rather than phonetic analysis are purported to be unable to index with comparable speed.

You can read more at Kroll Ontrack, *Practice Points: Audio Discovery—The Next Frontier* (electronicdiscovery@krollontrack.com), February 13, 2007 and *Full Speed Ahead: Searching Audio in EDD* by C.C. Holland, Law.com, November 21, 2006 (www.law.com/jsp/legaltechnology/PubArticleFriendlyLT.jsp?id=1164029731480).

OUTSOURCING PRECAUTIONS

If your firm or a client outsources work to offshore vendors, a re-evaluation of vendors' privacy controls and agreements may be appropriate to protect clients' interests as well as your own. This is the advice proffered by David Bender and Adam Chernichaw in *The New York Law Journal* ("Outsourcing Controls or Consequences," October 13, 2006). Bender and Chernichaw are with the White & Case law firm. Their firm sponsored a survey, "Americans' Perceptions About Outsourcing Personal Information," which was developed by the Ponemon Institute and is available at www.whitecase.com/outsourcingandprivacy. The authors report that 82% of survey respondents "expressed a need for regulations regarding use of their data, perhaps signaling that new legislation will be enacted."

Bender and Chernichaw advise outsourcing companies to re-evaluate "their privacy controls and offshore vendor agreements to protect their clients' interests as well as their own." One reason is the lack of consistency in data-protection laws. Not only can the laws vary from country to country but also may not be "uniformly subject to any extensive legislative or regulatory data-protection controls." Outsourcers can't be sure that "offshore vendors have adequate safeguards in place for protecting sensitive data." Therefore, "they must provide for safeguards by contract and confirm compliance through due diligence and regular security control audits."

To protect customers' privacy, as well as their own financial interests and reputation, outsourcers should negotiate service agreements with offshore vendors. In their article, Bender and Chernichaw provide a list of what should be covered in service agreements. Their guidance provides a useful tool for outsourcers in discussing the development of such agreements with counsel.

2007 TOP 10 TECHNOLOGIES: INFORMATION SECURITY IS CHIEF CONCERN

According to the AICPA 2007 Top Technology Initiatives Survey, Information Security Management is expected to continue to have the greatest effect in the upcoming year. For the fifth consecutive year, Information Security led the list of top technology initiatives. A related initiative, Identity and Access Management, moved up from sixth place in 2006 to second in 2007.

Privacy Management also moved up from fifth to fourth place. In addition, the following four new initiatives were introduced into this year's top 10:

- Securing and Controlling Information
- Distribution; Mobile and Remote Computing;
- Electronic Archiving and Data Retention; and
- Document, Content and Knowledge Management.

"We sponsor this survey each year because we believe that it is critical for CPAs to stay abreast of the latest technology initiatives and provide guidance regarding its impact to their clients and employers," said Barry Melancon, CPA, President and CEO of the AICPA.

In addition to AICPA Certified Information Technology Profes-

sional (CITP) Credential holders and Information Technology Section members, the AICPA collaborated with the Information Technology Alliance (ITA) and the Information Systems and Control Association (ISACA) whose members share similar perspectives on the top technologies that have an impact on business today.

The survey was conducted in December 2006 under the supervision of a task force led by David Cieslak, CPA, CITP, GSEC, Chairman of the AICPA's Information Technology Executive Committee. More than 1,500 participants ranked the 30 technology initiatives they felt will have the most significant impact in the next 12 to 18 months.

"Organizations continue to make large-scale IT-related investments and, while the rewards can be significant, the potential for financial loss or harm to reputation due to a security problem is a growing concern," said Everett C. Johnson, CPA, International President of ISACA. "Businesses are realizing that control and value are achieved by focusing on what IT enables the business to achieve, rather than on the technology itself. As the survey indicates, there is a clear need for management, auditors, and IT professionals to ensure that the appropriate security and governance processes are in place."

"Each year the members of the ITA look forward to working with the AICPA and ISACA to compile this very important list," said Ron Eagle, ITA President. "With the different facets and the rapid pace of change in IT today, it is critical to identify what others see as the key issues that may impact you, your clients and employer. The Top Technology Initiative survey meets that need perfectly."

The 10 most important technology initiatives for 2007 are as follows:

1. Information Security Management
2. Identity and Access Management
3. Conforming to Assurance and Compliance Standards
4. Privacy Management
5. Disaster Recovery Planning and Business Continuity Management
6. IT Governance
7. Securing and Controlling Information Distribution *(new)*
8. Mobile and Remote Computing *(new)*
9. Electronic Archiving and Data Retention *(new)*
10. Document Content and Knowledge Management *(new)*

For more information about the AICPA's 2007 Top Technology Initiatives project, including the full list of the 30 initiatives used in the survey and definitions of those highlighted, visit www.aicpa.org/toptech.

AICPA
220 Leigh Farm Road
Durham, NC 27707-8110
ADDRESS SERVICE REQUESTED

FIRST CLASS MAIL
U.S. POSTAGE
PAID
RIVERDALE, MD
PERMIT NO. 5165